

the inventor of microscopic photographs for carrier pigeons during the war. The 250 maps, covering a space of more than a hundred yards square, are so reduced on glass, that they can be packed in a portfolio weighing half a pound when full, and examined with a small microscope with perfect facility and clearness.

M. Bouvier, a French naturalist, has presented a collection of almost all the known species of *Algæ* collected in the fish market at Paris.

### NOTES

THE following are the officers of the forty-fifth meeting of the British Association which will commence at Bristol on Wednesday, August 25, 1875:—President-elect—Sir John Hawkshaw, F.R.S. Vice-Presidents-elect—The Right Hon. the Earl of Ducie, F.R.S., the Right Hon. Sir Stafford H. Northcote, Bart., F.R.S., the Mayor of Bristol, Major-General Sir Henry C. Rawlinson, F.R.S., Dr. W. B. Carpenter, F.R.S., W. Sanders, F.R.S. General Secretaries—Capt. Douglas Galton, F.R.S., Dr. Michael Foster, F.R.S. Assistant General Secretary—George Griffith, F.C.S. General Treasurer—Prof. A. W. Williamson, F.R.S. Local Secretaries—W. Lant Carpenter, F.C.S., John H. Clarke. Local Treasurer—Proctor Baker. The sections are the following:—Section A: Mathematical and Physical Science. President—Prof. Balfour Stewart, F.R.S. Section B: Chemical Science. President—A. G. Vernon Harcourt, F.R.S. Section C: Geology. President—Dr. T. Wright, F.R.S.E., F.G.S. Section D: Biology. President—P. L. Sclater, F.R.S. Department of Zoology and Botany, Dr. P. L. Sclater, F.R.S. (President), will preside. Department of Anatomy and Physiology. Prof. Cleland, F.R.S. (Vice-President), will preside. Department of Anthropology. Prof. Rolleston, F.R.S. (Vice-President), will preside. Section E: Geography. President—Major-General Strachey, F.R.S. Section F: Economic Science and Statistics. President—James Heywood, F.R.S., Pres. S.S. Section G: Mechanical Science. President—William Froude, F.R.S. The First General Meeting will be held on Wednesday, August 25, at 8 P.M. when Prof. Tyndall, F.R.S., will resign the chair, and Sir John Hawkshaw, C.E., F.R.S., President-elect, will assume the presidency, and deliver an address. On Thursday evening, August 26, at 8 P.M., a *soirée*; on Friday evening, August 27, at 8.30 P.M., a Discourse by W. Spottiswoode, LL.D., F.R.S., on "The Colours of Polarised Light;" on Monday evening, August 30, at 8.30 P.M., a Discourse by F. J. Bramwell, C.E., F.R.S., on "Railway Safety Appliances;" on Tuesday evening, August 31, at 8 P.M., a *soirée*; on Wednesday, September 1, the Concluding General Meeting will be held at 2.30 P.M. A special lecture to working-men will be given by Dr. Carpenter, F.R.S., on the evening of Saturday, Aug. 28; the subject will be "a piece of limestone." The Local Committee have done everything in their power to make the Bristol meeting a success. All the non-local sectional secretaries will be lodged at the Queen's Hotel, close to the reception-room, at the Local Committee's expense; this will no doubt conduce much to the easy working of the meeting. The experiment of a room for the exhibition of specimens and apparatus, tried first last year at Belfast, will be repeated this year. The President will be the guest of the Mayor, who will occupy for the first time the new Mansion House just given to the city by Thos. Proctor, Esq. Most of the other office-holders, as also all the foreign members, who have intimated their intention of being present, and several English members, have received private invitations from gentlemen resident in Bristol and neighbourhood. Many other hospitable arrangements have, we believe, been made, and altogether, so far as enjoyment and comfort are concerned, this promises to be one of the most satis-

factory meetings of the Association. As we previously intimated, a specially prepared Guide, compiled by several gentlemen, will be published by Wright and Co., of Bristol; a lodging list with useful map will be issued this week. The whole of the Victoria Rooms, Clifton, will be used as a reception-room. All the evening meetings and *soirées* will take place at the Celston Hall, and satisfactory arrangements have been made for the meetings of sections. Several interesting excursions have been arranged for, including two to the Mendips, and handsome offers of entertainment have been made by those gentlemen to whose neighbourhood the excursions are to be made.

A NEW physical observatory is to be erected at Fontenay, the head of which will be M. Janssen. It will be erected on the very spot where it was intended to build one when it was proposed some years back to remove the Paris Observatory. In a few months, then, Paris will have four observatories—the National, the Physical, and two meteorological observatories—one at Montsouris under M. Marie-Davy, and another which is being built at the Acclimatisation Gardens. It is said that some members of the Municipal Council will propose to connect all these observatories with the National one by a special wire to register automatically all the meteorological observations by the Rysselberghe process, which we noticed last week in connection with the Geographical Exhibition.

THE Smithsonian Institute and the Indian Bureau are engaged in forming for the U.S. Centennial, a collection exhibiting the past and present history of the Aboriginal races of America.

"THE German Abyssinian Company."—A company has been incorporated in Berlin which proposes to found at Choa, the most southern province of Abyssinia, a permanent settlement, in order from thence to send out scientific expeditions into the unexplored portion of Africa, and to develop the commerce of the country. The objects of the Company are, however, supposed to be more commercial than scientific.

THE Khedive has issued a decree ordering the enforcement of the metrical system in Egypt from the 1st of January, 1876.

DR. HAWTREY BENSON, of Dublin, writing to the Dublin *Daily Express* under date July 27, describes a remarkable shower of small pieces of hay which he witnessed at Monkstown that morning. It appeared in the form of "a number of dark flocculent bodies floating slowly down through the air from a great height, appearing as if falling from a very heavy dark cloud, which hung over the house." The pieces of hay picked up were wet, "as if a very heavy dew had been deposited on it. The average weight of the larger flocks was probably not more than one or two ounces, and, from that, all sizes were perceptible down to a simple blade. The air was very calm, with a gentle under-current from S.E.; the clouds were moving in an upper-current from S.S.W." The air was tolerably warm and dry, and the phenomenon is thus accounted for by Dr. J. W. Moore: "The coincidence of a hot sun and two air currents probably caused the development of a whirlwind some distance to the south of Monkstown. By it the hay was raised into the air, to fall, as already described, over Monkstown and the adjoining district."

In the *Paris Bulletin International* for July 30 last Prof. Raulin of Bordeaux gives the result of an examination of a comparison of the gross amount of the rainfall for the ten years 1851-60 with that for the ten years 1861-70, from which it is shown that, as regards the southern half of France, the rainfall during the former of these decennial periods exceeded that of the latter at forty-six out of the fifty-three stations at which observations were made for the twenty years. A similar distribution of the rainfall during these two decennial periods appears to have taken

place, with few exceptions, over a large area, embracing the British Isles, France, Germany, Italy, Spain, the basin of the Mediterranean, and Algiers. The point is an interesting one, and we hope that meteorologists will inquire how far the rainfall observations of their respective countries agree with the result obtained by Prof. Raulin for the southern half of France.

In the *Journal* of the Scottish Meteorological Society for 1874-5, just published, will be found a long and elaborate paper by Mr. A. Buchan and Dr. Mitchell, on the Influence of Weather on Mortality from different diseases and at different ages; some of the results which have been arrived at will be found in an abstract by Mr. Buchan, which we publish to-day. Other papers in the *Journal* are on proposed portable Iron Barometers, and on a simple form of Anemometer, by Mr. T. Stevenson, C.E.; Meteorological Register at Inveresk for 1874; Table of Observations connected with the periodical return of the Seasons; Additional Rainfall returns for 1874; and Meteorological returns, with notes of the prevailing weather and state of vegetation at the Society's stations for the year; besides reports of the general meetings of the Society held on July 3, 1874, and February 10, 1875.

It is expected that an important meeting of the Council of the Paris Observatory will be held to-day, a member of the Academy having been desired to explain his assertions relating to astronomical observations. The results will very likely be made public.

THE recent French inundations have recalled to memory an experiment which was tried twelve years ago before Napoleon III. The design was to manufacture mattresses of cork, so that any one on board a ship or in a house which could be flooded would have in his bed a ready-made raft capable of floating under a weight of more than 1 cwt. for any length of time. Cork is a material so soft that mattresses made of it are not inferior to any other for comfort.

A MEMORIAL in marble of Sir John Franklin was uncovered on Saturday by Sir George Back in Westminster Abbey. The monument has been erected by the late Lady Franklin, and contains some appropriate lines by Mr. Tennyson.

THE recent attack upon Lieut. Conder's Palestine exploring party occurred near Acre. Lieut. Conder was badly, but not dangerously, wounded.

THE election to the vacant Professorship of Medicine in the University of St. Andrews will take place on Sept. 22 next.

THE *Shearwater*, which was commissioned by Capt. Nares (now commanding the Arctic Expedition) on July 20, 1871, for surveying service on the Mediterranean Station, arrived at Sheerness on July 23 last. In Saturday's *Times* will be found a brief account of the work done by the ship during her four year's service. During part of the cruise in the Mediterranean Dr. Carpenter was on board to investigate the results of soundings and dredgings. Commander W. J. L. Wharton took command of the ship on Capt. Nares leaving to join the *Challenger*. After having been two years in the Mediterranean the *Shearwater* proceeded to Zanzibar, in order to survey the island and the opposite coast. In February 1874 the ship proceeded to the Cape of Good Hope, leaving Cape Town on July 14 with the Rodriguez Transit party. At Rodriguez the ship was constantly employed on work connected with the Transit, running meridian distances, surveying the island, and assisting the shore party in various ways. After landing the Transit party at Mauritius, the *Shearwater* again proceeded to Zanzibar to continue surveying work, officers and men, however, suffering greatly from fever. Zanzibar was left on May 8, and the *Shearwater* reached England as we have said on July 23 last. During the four years the ship has been in commission, she has surveyed in detail 790

miles of coast line and sounded closely over an area of 5,900 square miles. Most of the earlier surveys have been published.

IN the new part for May 1875 of Hoffmann's *Niederländisches Archiv für Zoologie* there are two papers of interest—one by Dr. A. A. W. Hubrecht, on the Nemertines of the Gulf of Naples, the other by Prof. P. Harting, on the eggs of *Cyanea-Otoliths* of *Cyanea*, and *Chrysaora-nerve* ring and organs of sense of *Eucopa-Chromatophores* of the embryonic *Loligo*; being notes made during a stay at Scheveningue.

THE following candidates have been successful in the competition for the Whitworth Scholarships, 1875:—Joseph Harrison, 21, Mechanical Engineer; George Goodwin, 20, Mechanical Engineer; John Alldred, 21, Locomotive Engine Fitter; Franklin Garside, 20, Pattern Maker; Frank W. Dick, 21, Mechanical Engineer; Joseph Poole, 20, Fitter and Turner.

THE forty-third meeting of the British Medical Association opened on Tuesday in Edinburgh. Sir Robert Christison, the President, in his inaugural address, treated of the subject of Medical Education, entering into a complete history of the Medical School of Edinburgh.

THE twelfth number of Mr. Hermann Strecker's quarto work upon indigenous and exotic lepidoptera has lately been published by him at Reading, Pennsylvania, and contains, as usual, one plate filled with figures of butterflies. Among them are several very conspicuous forms, the most prominent being that called by him *Eudamonia Jehovah*, a term to which very serious objection has been raised on account of its apparent irreverence, but which he stoutly defends. Several new species are described; one of them being figured under the name of *Hepiolus thule*.

THE Report of the Agri-Horticultural Society of Madras, for 1874, shows that the Society is effecting much substantial benefit in its district, especially in the assistance and encouragement it offers in the introduction and cultivation of useful plants, that will thrive in the different climatal regions of Southern India, European vegetables, fibre-producing plants, coffee, tea, tobacco, indigo, &c. The cultivation and preparation of tea is strongly encouraged, and substantial prizes awarded for the best sample of different sorts. Some of the samples submitted to the brokers at Calcutta for their judgment are described as being of superior quality. A flower, fruit, and vegetable show is held annually, and it is worthy of note that all the prizes for ferns and other plants with ornamental foliage were gained by native gentlemen. There was last year a special class for the vegetable productions of native market gardeners, and the European vegetables exhibited are reported to have been of fair quality. The "list of new plants introduced in 1874" is remarkable for the very small proportion of correctly spelt names.

IN reference to Tidal Mills (vol. xii., p. 212), a correspondent writes that they have engaged the attention of Gregory, Barlow, Belidor, and Aldini, as will be seen on turning to the article on Tidal Mills in the "Penny Cyclopædia."

THE additions to the Zoological Society's Gardens during the past week include a Punjab Wild Sheep (*Ovis cycloceros*) from Muscat, presented by Commander Yarforth; a Ruffed Lemur (*Lemur varius*), a Mongoose Lemur (*Lemur mongo*) from Madagascar, two Rheas (*Rhea americana*), a West Indian Rail (*Aramides cayennensis*) from S. America, a Golden-naped Amazon (*Chrysotis auripalliata*) from Central America, two Yarrell's Curassows (*Crax carunculata*) from S.E. Brazil, two Razor-billed Curassows (*Mitua tuberosa*) from Guiana, deposited; a Short-tailed Muntjac (*Cervulus micrurus*), a Crested Pigeon (*Ocyphaps lophotes*), five Amherst Pheasants (*Thaumalea amherstie*), and six Japanese Pheasants (*Phasianus versicolor*), bred in the Gardens.